Corn Oil Extraction

Headwaters Inc., & Great River Energy

Equipment to extract corn oil, a product not currently harnessed in ND, will be set up at Blue Flint Ethanol. The oil will be sold to create biodiesel.

A grant award of $500,000 consisted of 25% of the total project cost.

Biomass Enhanced Refined Lignite Demonstration

ComPAKco

This project will optimize the design and operation of the ComPAKer to blend lignite with biomass in "PAKs". The PAKs are anticipated to provide a high value solid fuel for home and commercial furnaces.

A grant award of $275,000 consisted of 45% of the total project cost.

Renewable Electrolytic Ammonia Production from Water and Nitrogen

Energy & Environmental Research Center (EERC)

EERC will develop and demonstrate a one-step electrolytic process for renewable ammonia production that utilizes inputs of water, air-separated nitrogen, and wind-generated electricity.

A grant award of $250,000 consisted of 42% of the total project cost.

Developing a Biomaterials Industry in ND

North Agricultural Experiment Station, North Dakota State University

This project will complete a front end engineering and design (FEED) study for a pilot scale plant to demonstrate the commercial potential of technology to produce materials and fuel from biomass feedstock. Initial efforts will be focused on technical and economic requirements for commercializing technology to produce materials and fuel from biomass feedstock. Initial efforts will be focused on technical and economic requirements for commercializing technology to produce bio-based cellulose nanowhiskers.

The grant award of $800,000 consisted of approximately 45% of the total cost of the project.

Evaluation of Perennial Herbaceous Biomass Crops in ND

ND Natural Resources Trust

Phase II of a 10 year study, the project will contribute to long-term data that will ultimately determine the most productive grass species, optimal harvest methods, and best practices to maintain productive perennial biomass stands in ND.

A grant award of $280,000 consisted of 67% of the total project cost.

Dakota Turbines

This project will create the most reliable, cost-effective and efficient small wind turbine on the market and is scalable from 5 - 100 kW.

For More Information

Call the Industrial Commission at 701-328-3722 or visit us on the web:

www.nd.gov/ndic/renew-infopage.htm.

Developed by the North Dakota Department of Commerce

Renewable Energy Program

North Dakota Industrial Commission

Competitive Grants Program

Renewable Energy Program

North Dakota's Renewable Energy Program (REP) was established by the Legislature in 2007. The law provides that the Industrial Commission shall consult with the Renewable Energy Council (REC). The REC is made up of 7 individuals including the Commerce Commissioner, who serves as chairman, and representatives from the following 6 industries: agriculture, biomass, biodiesel, wind, ethanol and sugar beet based ethanol. The Department of Commerce provides technical assistance on the management of this program.

The mission of the Renewable Energy Council (REC) is to promote the growth of North Dakota's renewable energy industries through research, development, marketing, and education.

Blue Flint Ethanol E85 Blending Facility

Blue Flint Ethanol, LLC (BFE)

BFE will install facilities that allow for in-line blending of E85. BFE will market E85 to retail fuel stations in the state. It is believed that consistent availability of an E85 product that is blended into the truck as opposed to splash or tank blended will grow retail market use of this product.

The grant award of $50,000 consisted of approximately 43% of the total cost of the project.

Feasibility Study of a Biomass Supply for the Spiritwood Industrial Park

Great River Energy (GRE) along with: Great Plains Institute, North Dakota Association of Rural Electric Cooperatives, North Dakota Department of Agriculture, North Dakota Farmers Union, North Dakota Natural Resources Trust.

This project will perform a technical evaluation of the prospects for integrating a biomass supply into Spiritwood Station, part of the new Spiritwood Industrial Park in Jamestown. GRE proposes to co-fire up to 10% biomass in Spiritwood Station.

If successful, this project will demonstrate a new model of renewable energy production, provide added value to agricultural producers and rural communities, and offer a replicable example for other coal-fired power plants in North Dakota.

The grant award of $109,000 consisted of approximately 23% of the total project cost.

ComPAKer

ComPAKco, LLC

This project will develop a mechanical device which will increase the density of biomass in order to transport and utilize it efficiently. The unique design and use of supplemental binder material in the proposed ComPAKer will result in less power requirements and a lower cost than pellet making machines currently available. The produced biomass "PAK" is uniform in size and shape and can be handled and transported much more efficiently than the raw biomass and further will allow the "PAK" to be easily integrated into both conventional combustion and biomass gasification systems.

The grant award of $72,275 consisted of 50% of the total project cost.

Small Wind Turbine Training Center

Energy & Environmental Research Center (EERC)

The small wind turbine training center will consist of two small wind turbines less than 20 kW in size. Once constructed, the facility will provide educational opportunities to a wide range of participants including grade school through college-level students and the general public. Qualified staff will lead facilitated discussions for groups wishing to tour the site for at least 2 years following the commencement of turbine operation. The facility will allow the EERC to provide technical training workshops related to the installation, operation, and maintenance of small wind turbines. The EERC will provide at least 3 technical workshops or educational events during the contract period.

The grant award of $50,000 consisted of 50% of the total project cost.

Renewable Electrolytic Nitrogen Fertilizer Production

Energy & Environmental Research Center (EERC)

This project will optimize processes for producing nitrogen fertilizers using biomass gasification-derived synthesis gas (biosyngas), nitrogen extracted from air and electricity. As the processes have been demonstrated to operate with low-cost biosyngas rather than high-cost hydrogen derived from natural gas, they offer the potential for lower-cost and smaller-scale fertilizer production. Commercialization of the processes would enable regionally produced fertilizer to compete economically with imports and simultaneously develop a new fertilizer production industry.

The grant award of $200,000 consisted of approximately 49% of the total project cost.

Abundant Energy: A Proposal for Wind Power Development & Technical Education

Lake Region State College

This project will site and erect an operating 1.65 MW wind turbine and design and implement a wind turbine training technician program that will be authorized by the North Dakota State Board of Higher Education. Additionally, Lake Region proposes to utilize the wind turbine to provide most of the electricity required by the campus.

The grant award of $500,000 consisted of approximately 12% of the total project cost.

Ethanol Fuels Promotion

American Lung Association of ND & ND Ethanol Producers Association

This project will implement an education and promotion campaign to build ND consumer awareness of the benefits of ethanol and move consumers to increase ethanol usage.

The grant award of $30,000 was approximately 41% of the total project cost.

Fischer-Tropsch (FT) Fuels Development

Energy & Environmental Research Center (EERC)

This project will prepare pilot-scale testing equipment and perform testing in the areas of FT liquid production, catalyst development, catalyst testing, product upgrade, and process simulation. Biomass-derived syngases will be used for the testing. The development of FT technologies to produce liquid transportation fuels from biomass, waste and coal will provide a new industry for North Dakota.

The grant award of $189,034 consisted of approximately 21% of the total project cost.

Renewable Oil Refinery

Energy & Environmental Research Center (EERC)

This project will provide a complete, ready-for-bid design of a pilot-scale renewable oil refinery capable of producing diesel fuel, jet fuel, and naptha. By utilizing crambe, it can provide a sustainable market for crops suited for areas of North Dakota with a shorter growing season, arid conditions, and suboptimal soil. The grant award of $500,000 consisted of 50% of the total project cost.